

Replace the paragraph beginning at page 8, line 1 as follows:

A13

-- As the size of the substrate to be tested increases, scanning solely by beam deflection, even with the above-mentioned corrections and provisions for the secondary electron detection, can no longer be carried out. However, a combination of beam deflection with a mechanical displacement of the substrate then allows a test. The substrate 8 is retained for this purpose on a support table 14 which is displaceable at least in a plane perpendicular to the particle beam. The properties of the secondary particle detection can be optimised if the deflection of the particle beam takes place preferably in one direction, whilst the substrate is displaced mechanically in the direction perpendicular thereto. --

✓Cancel claims 1-14.

Add the following claims.

- A14
15. A method of testing a substrate comprising:
- directing a particle beam onto said substrate in such manner as to cause secondary particles to be emitted from any selected one of a plurality of sites on said substrate;
 - guiding at least some of the secondary particles from said one selected site to a signal detector spaced from said one selected site;
 - generating signals in response to the detection of the detected secondary particles, said generated signals having values which vary in response to changes in the space between said detector and different ones of said selected sites; and
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cont
comparing the respective signals produced in response to the detection of said detected secondary particles from each of said selected sites with a selected predetermined reference signal.

16. The method according to claim 15 including deflecting said particle beam from one selected site to another.

A14
cont.
17. The method according to claim 15 including relatively moving said substrate and said particle beam from one selected site to another.

18. The method according to claim 17 including moving said substrate relative to said particle beam.

19. The method according to claim 15 including relatively moving said substrate and said detector to vary the space between said selected site and said detector.

20. The method according to claim 15 including deflecting said particle beam relative to said substrate to change from one selected site to another and thereby vary the space between said detector and said another selected site.

21. The method according to claim 15 including guiding said at least some of said emitted secondary particles directly from said one selected site to said detector.

22. The method according to claim 21 including controlling the guiding of secondary particles to said detector as a function of the space between said detector and the site of the emitted secondary particles.

23. The method according to claim 21 including controlling the guiding of the secondary particles to said detector as a

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function independent of the space between said detector and the site of the emitted secondary particles.

A14
cont.
24. The method according to claim 17 including moving said substrate simultaneously and in synchronization with the deflection of said particle beam.

25. The method according to claim 15 including determining the selected predetermined reference signal by calibration of said detector.

26. Apparatus for testing a substrate comprising:
means for producing a particle beam;
means for directing said beam along a first path to a selected one of a plurality of sites on said substrate whereby secondary particles are produced and emitted along a second path by said substrate at said selected one of said sites;
secondary particle detecting means spaced from said selected one of said sites;
means for guiding secondary particles from said selected one of said sites to said detector means, said detector means being operable to generate a signal having a value which varies in response to differences in the space between said detector and said selected one of said sites; and
means for comparing the respective signals produced in response to the detection of said detected secondary particles from each of said selected sites with a selected predetermined reference signal.

27. The apparatus according to claim 26 wherein said guiding means comprises deflecting electrodes.

A14 28. The apparatus according to claim 26 including means for deflecting said particle beam from said one of said selected sites to another of said selected sites.

29. The apparatus according to claim 26 wherein said substrate is supported on a movable support, and including means for conjointly moving said support and the substrate supported thereby.

30. The apparatus according to claim 29 including means for deflecting said particle beam simultaneously with the conjoint movement of said support and said substrate.

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